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File Code: 3420

Date: April 6, 1995

SUBJECT: True Mistletoe Demonstration Plots at Crystal Lake Campground, Mt. Baldy R.D., Angeles National Forest (FPM Rept. No. S95-1)

To: Forest Supervisor, Angeles National Forest

In the Fall of 1990, FPM Pathologist, James Allison and Susan Frankel, Karen Fortus, Resource Office, Mt. Baldy Ranger District, and Neil Metcalf, Forestry Technician, Mt. Baldy Ranger District set up a True Mistletoe Demonstration Area in the mistletoe-infected live oak trees that make up a substantial component of trees in the Crystal Lake Recreation Area, Mt.Baldy R.D.

Plots were established in the live oak adjacent to the parking area at Crystal Lake and in the Woodpecker Loop of the Crystal Lake Campground. the plots adjacent to Crystal Lake consisted of 16 live oak clumps (# of trunks counted at ground line). The plots at Woodpecker Loop consisted of 14 live oak clumps. The treatments within these plots were as follows: 1) Pruning of individual limbs; 2) Removing trees and managing sprouts for replacement trees; 3) Pruning of individual limbs and fertilization and watering of pruned trees; 4) Removing trees, managing sprouts for replacement trees and fertilizing and watering sprouts; and 5) Controls (trees left untreated). All trees were marked with numbered metal tags that were placed on the north side of one of the stems under the soil.

The results of the various treatments after four growing seasons(1994) looked promising for reducing the long-term effect of true mistletoe on live oaks in campgrounds and other high value recreation areas. Trees that were pruned only showed very little regrowth of mistletoe plants. Most of the mistletoe plants that were present were the result of birds spreading the seeds. Little difference was seen between those trees just pruned and those that were pruned, fertilized, and watered. The same holds true for those trees that were just removed and the sprouts were managed for replacement trees and those that were removed, sprouts managed for replacement trees, and the subsequent sprouts were fertilized and watered. The control trees, which were heavily infected with mistletoe, showed very severe decline symptoms over the last four years. Some of the control trees had more mistletoe foliage present than oak foliage.

The main drawback to using these control methods is cost. Our costs for pruning were approximately $100 for a heavily infected tree(greater than 30 mistletoe clumps), $80 for a moderately infected tree(16 to 30 mistletoe clumps), and $50 for a lightly infected tree(1 to 15 mistletoe clumps). Costs for felling a tree was about $40. A problem occurred in the treatments that required tree removal followed by management of stump sprouts. Several of the trees required two years to produce stump sprouts, which would later be thinned and used as

replacement trees. These results caused some concern because of the initial uncertainty caused by the delayed production of sprouts. Thus, these treatments would be applied only to trees that are very heavily infected with mistletoe and do not readily lend themselves to pruning. These techniques are very labor intensive so they should be used only in high-value trees in areas such as campgrounds and other recreation use areas.

If there are questions concerning this Demonstration Area, contact James Allison at 909-383-5588.

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